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MEMORANDUM FOR RECORD 20 August 2001
SUBJECT: 16 August 2001 meeting of the Umbrella Coordination Team (UCT)

GENERAL

1. Subject meeting was held at the Ramada – Grand Forks from 1300 – 1430. UCT and non-UCT attendees are indicated by Y below.

UMBRELLA COORDINATION TEAM				
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	Non-Governmental Organizations			
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*Representing Chuck Meyer

NON-UCT ATTENDEES				
	ORGANIZATION	**NAME**	**PHONE**	**EMAIL**
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Y	David Miller & Associates	Eldon Kraft	818-833-9728	Ekraft@dma-us.com

2. The meeting was divided into two sessions: (a) a seminar on the Corps of Engineers' process for evaluating Federal projects and (b) a discussion on the Red River Reconnaissance Study (RRRS) strawman 905(b) analysis, i.e., a preliminary draft of the report that will be submitted to Corps' Higher Authorities in a few weeks.

3. The Corps contracted with David Miller & Associates (DMA) to provide planning services during the RRRS. DMA was assigned three tasks:

- Presenting a half-day seminar on the Corps' project evaluation process
- Preparing the 905(b) write-up for the proposed basinwide/mainstem feasibility study
- Preparing the 905(b) write-up for the proposed Fargo-Moorhead-and-upstream subbasin feasibility study (or studies)

SEMINAR ON CORPS' PROCESS

4. The genesis for this seminar was the debate on the Corps' project evaluation process at the 12 April 2001 UCT meeting. Miller gave a PowerPoint presentation covering the project implementation phases – reconnaissance study, feasibility study, preconstruction engineering and design (PED), and construction. He laid the groundwork for the afternoon discussion on the strawman 905(b) by outlining the report, with emphasis on getting letters of intent from prospective non-Fed sponsors. He went on to describe the post-905(b) Corps/sponsor negotiations on the Project Management Plan (PMP), i.e., the feasibility study's plan of study. Through this stage, the Corps' effort is 100/0, i.e., 100% Federally-funded, notwithstanding non-Fed costs for participating in the process. Once we have a mutually satisfactory PMP, the Corps and sponsor sign a Feasibility Cost Sharing Agreement (FCSA) for the 50/50 cost-shared feasibility phase.

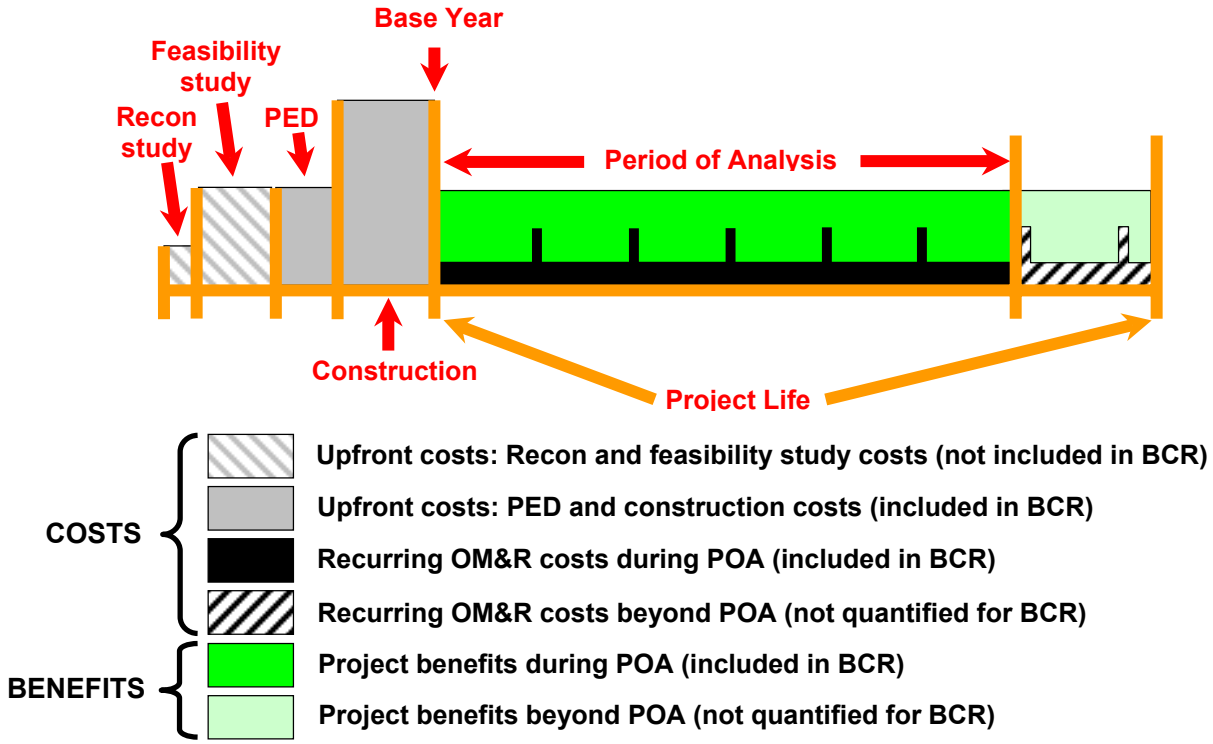
5. If the feasibility study concludes that there is a Federal interest in proceeding with implementation, the Corps and sponsor sign a PED agreement covering the 65/35 cost-shared detailed engineering and design phase. The PED phase produces plans and specifications for the construction contract, the real estate acquisition plan that the sponsor uses to fulfill its LERRD requirement (lands, easements, rights-of-way, relocations, and disposal areas), and the draft Project Cooperation Agreement (PCA). The PCA carries the Corps and sponsor through the 65/35 cost-shared construction phase. Of course, each of the above steps is dependent on Congressional authorization and funding. Once the project is completed, it is generally turned over to the sponsor for operation, maintenance, repair, rehabilitation, and replacement (OMRR&R).

6. Miller then covered the background and process for project evaluation. He laid out the Corps' six-step planning process:

Step 1 – Identify problems and opportunities
Step 2 – Inventory and forecast conditions
Step 3 – Formulate alternative plans
Step 4 – Evaluate alternative plans
Step 5 – Compare alternative plans
Step 6 – Select plan

NED

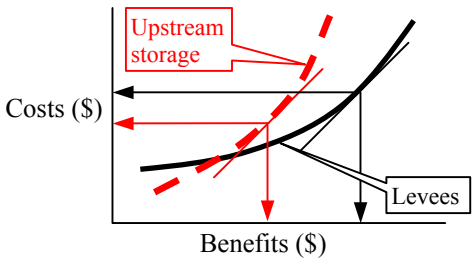
7. He described the cost and benefit streams over a project's planning, implementation, and expected life … and which ones count as National Economic Development (NED) costs and benefits and are tallied in the



benefit/cost ratio (BCR). The figure below captures this information. Key points:

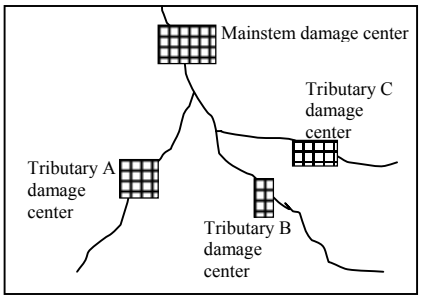
- All benefits and costs are brought to a common date (the base year) using the approved discount rate. Pre-base year benefits and costs are compounded forward to the base year; post-base year benefits and costs are discounted back to the base year. Then total base year benefits and costs are annualized over the period of analysis (POA) [similar to how a house mortgage is calculated] to produce 'average annual benefits' and 'average annual costs.' The BCR = AAB/AAC.
- The POA is generally assumed to be 50 years. Although a project's physical life and ability to produce benefits might continue well beyond the POA, the discount factor beyond 50 years is so small that benefits and recurring costs that far out are relatively insignificant in the analysis.
- Costs included in the BCR are PED, construction, and OMRR&R costs during the POA. Recon and feasibility study costs are <u>not</u> included in the BCR. However, the feasibility study cost is rolled into a project's total Federal cost, which is limited for some Corps' authorities, e.g., Continuing Authority Program authorities like Section 205 ($7,000,000) or Section 206 ($5,000,000).
- Benefits included in the BCR cover just those occurring during the POA.

8. Miller cited examples of project benefits that are or are not NED benefits. Example 1: A grocery store's loss of inventory from flood damages is an 'NED cost' that becomes an 'NED benefit' if it would be prevented by a proposed project. However, that grocery store's loss of business is <u>not</u> an NED factor because people would buy groceries elsewhere; i.e., from a national perspective, the loss of business at one store is offset by a corresponding gain of business elsewhere. Example 2: Flood-related ag losses might reduce farm income such that sales of new farm equipment decrease … which might translate into the equipment dealer's salesman forgoing a home improvement … which might mean less restaurant visits by the carpenter … which etc. However, such multiplier effects are not counted in the NED analysis.



9. Miller noted that the 'NED plan' is the plan that maximizes net benefits, i.e., average annual benefits – average annual costs. This

concept helps not only in selecting the plan, but also in formulating that plan to its optimize level of protection. Hypothetical example: The dashed red curve in the figure shows how benefits from upstream storage increase as costs increase … and the solid black curve shows how benefits from levee protection increase as costs increase. The 45-degree lines indicate where another $1 in cost buys another $1 in benefit for these two options. Up to this point, another $1 in cost buys more than $1 in benefit … and past this point, another $1 in cost buys less than $1 in benefit. Thus, the 45-degree lines mark the point of maximum net benefits for these two options. What is the NED plan? The max net benefit point for the levee adds more benefits than costs compared to the max net benefit point for upstream storage; thus, the levee's max net benefit point constitutes the NED plan.



10. Miller presented a hypothetical example of an integrated system comprising three tributaries joining the mainstem, each of which experiences flood-related damages. He used this example to indicate that the Corps evaluates each project separately and in every possible combination to determine the NED plan, i.e., A, B, C, A+B, A+ C, B+C, and A+B+C. His example illustrated how where a tributary FDR project that wasn't economically justifiable based just on tributary benefits could gain economic feasibility when mainstem benefits were factored in. Ogaard and Nelson commented that, when the Corps concludes that a project is not economically justifiable according to the Corps' methodology (which the locals do not necessarily concur with), that 'label' can make it impossible for local interests committed to its implementation to find other, non-Federal support. Raster asked how we design an integrated system if we have a checkerboard of Corps-supported projects and locally-supported projects with vastly different implementation prospects. And even if we assume projects will eventually be constructed, do we dare build a project with a lesser degree of protection now when that leaves a community vulnerable to larger events until all the other projects are constructed? In other words, what should you count on when you design a project?

NER

11. Miller talked about how to identify the National Ecosystem Restoration plan. Criteria include the following:

- Ecological resources of national, regional, and local significance
- Cost-effective solutions
- Proven technology
- Clear linkage between restoration action and measurable improvement in the ecosystem

12. He described the cost effectiveness/incremental cost analysis (CE/ICA) approach to NER evaluations, where the CE analysis identifies least-cost solutions for each level of output … and IC analysis compares the incremental costs for each additional unit of output. A typical measure of output is Habitat Units (HUs), generated by the Habitat Evaluation Procedure (HEP) based on expected changes in Habitat Suitability Index (HSI) for the project's area of influence over a POA.

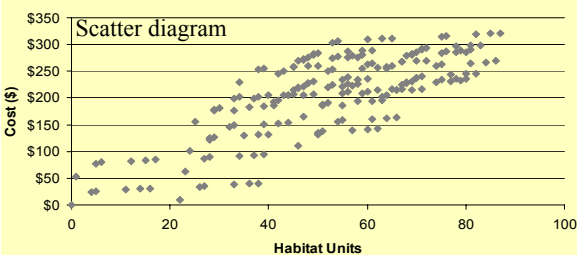
13. As the series of diagrams on the next page shows, the scatter diagram showing costs and outputs for various plans is screened to delete plans that cost more for a given level of output or that produce less output for a given cost. The resulting set of cost-effective plans are then analyzed to determine ICA 'breakpoints.' These results are provided to decisionmakers to select the NER plan that best satisfies project goals and objectives, e.g., fitting within a budget constraint, achieving public acceptability, etc.

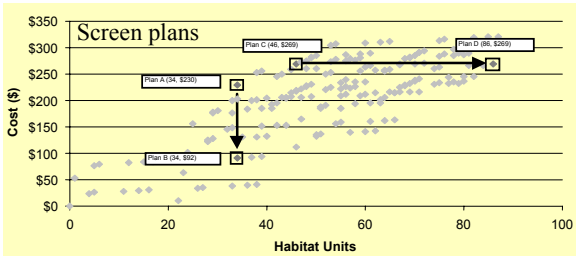
MULTI-PURPOSE PROJECTS

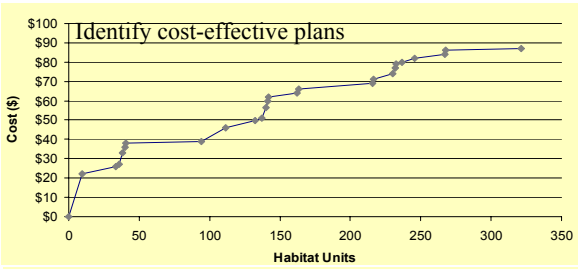
14. Miller explained how to optimize multi-purpose plans that provide both FDR and NRE. Corps' regulations state: "a plan that trades off NED and NER benefits to maximize the sum of net contributions to NED and NER is usually recommended." The first step is to identify the NED and NER plan [or options if several alternatives are contending for the NER plan honor].

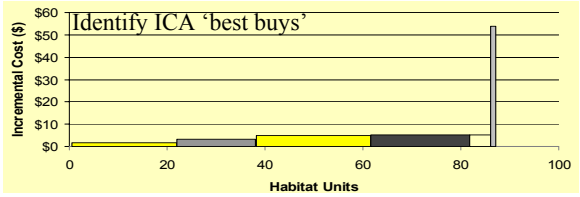
15. Miller discussed three scenarios:

- A combined NED/NER plan with separate NED and NER facilities, i.e., no interaction between NED and NER components. In this scenario, NED/NER alternatives comprise the NED plan and various NER 'best buys' … which allows decisionmakers to select the NED/NER plan based on their judgment whether the additional NER benefits are worth the added cost.
- A multiple purpose project with NED and NER outputs.
- Multiple facility/multiple purpose projects.









STRAWMAN 905(b) ANALYSIS

16. The DMA representatives then discussed the strawman and answered questions from attendees. They said that the 905(b) analysis constitutes the recon report. Distributing a strawman to 'the public' as we did for the RRRS is unusual, but offers an opportunity for input from and buy-in by Red River basin stakeholders.

17. Raster noted that the 905(b) analysis needs to cover the Manitoban problems, issues, opportunities, etc., even if the Corps' is not the action agency north of the border. This will reaffirm the integrated, holistic, basinwide approach and keep our options open for joint efforts with cross-border benefits and, where appropriate, cross-border cost sharing à la the Rafferty-Alameda example where the U.S. contributed several million dollars toward floodwater storage. Topping commented that Manitoba would assist in determining benefits north of the border utilizing their hydrodynamic routing model.

18. Raster also commented that it was important that the 905(b) analysis recognize that follow-up feasibility studies will address measures that the Corps might not implement, but that non-Federal interests might pursue. Miller added that a Corps' feasibility study is more in-depth than non-Federal interests are used to. The feasibility study is the 'decision document' for Congressional authorization for and funding of project implementation (i.e., the PED and construction phases) … and the cost estimate developed in the feasibility study cannot be exceeded by more than 20 percent. Therefore, a feasibility study should provide a fairly detailed design (reasonably close to plans and specifications) before the Corps pulls the plug on measures lacking Federal interest … which would be a good launching point for a non-Federal sponsor pursuing implementation by itself.

19. DMA outlined two fundamental changes to the recon report concept that Raster previously presented:
- DMA's experience with other Corps' Districts shows that a basinwide recon study, like the RRRS, needs just a single 905(b) analysis from which a number of feasibility studies may be launched to address problems in individual subbasins or whatever. This contrasts with Raster's vision of separate basinwide / mainstem and subbasin-by-subbasin 905(b)s.
- Corps' regulations don't require submitting a draft 905(b) to Corps' Higher Authorities, then revising it per review comments, and submitting the final version. Raster's proposed timeline assumed submittal of draft 905(b) analyses in late July or early August, review by the Corps' Mississippi Valley Division (MVD) and Headquarters (HQ) by early September, and submittal of the revised RRRS 905(b) analyses by the end of September. Instead, we'll submit the single 905(b) analysis around mid-August. Then MVD and HQ will say one of the following: (a) it's good-to-go, (b) it's okay but you should address X and Y during development of the PMP, or (c) it sucks, and you need to modify and resubmit it.

20. There is no 'upper limit' to the 'Federal interest' in a project [where Federal means Corps in this context]; however, there are 'lower limits' that (for example) raise the bar above local stormwater management projects.

21. Ten Eyck had serious problems with the use of the Twin Valley reservoir as one of the 905(b)'s 'posterchildren.' Miller emphasized that the 905(b) is merely a steppingstone to the expected follow-up feasibility studies which can include stuff not in the 905(b) and exclude stuff that's in the 905(b). The scope of a feasibility study is based the negotiated PMP that defines what the Corps and non-Federal sponsor are willing to cost share 50/50 to study. Raster asked if we could forego specific 'posterchildren' if they seem to be provocative; but Miller indicated that the 905(b) format requires this kind of example. Fritz and Miller agreed that we might be able to extrapolate from less controversial examples of retention projects … and extrapolate $/acre-foot of storage … and, likewise, extrapolate $/lineal foot for stream restoration.

22. DMA emphasized the criticality of getting letters of intent (LOIs) from prospective non-Federal sponsors ostensibly willing to partner with the Corps in a follow-up 50/50 cost-shared feasibility study. Even the most cost-effective, highest BCR, maximum NER project is dead unless the Corps has a non-Federal sponsor.

23. A LOI is merely an expression of interest; it is totally benign and does not commit the sponsor in any way, shape, or form at this time. That commitment comes after the PMP is negotiated by the Corps and sponsor … and they then sign the Feasibility Cost Sharing Agreement (FCSA).

24. The scope and level of detail in a feasibility study will largely be determined by what the non-Federal sponsor can fund. Lewis stated that he's uncertain how far the State of Minnesota will go to supporting local sponsors in meeting the 50/50 cost share. Ogaard commented that DMA and the Corps has not done enough to contact potential sponsors, e.g., North Dakota county and joint water resource boards. For example, the logical co-sponsors for the proposed basinwide/mainstem feasibility study are the RRWMB and RRJWRB; but although the latter is represented on the UCT, more should be done to emphasize the potential benefits of supporting the RRRS effort and providing a LOI.

25. Raster promised to provide a draft LOI to all attendees with the MFR on this meeting.

26. Miscellaneous comments:
- Update the Grafton discussion
- Drop the Neche discussion
- Delete the Devils Lake outlet from the list of existing projects
- Add the RRN programmatic EIS to the list of studies
- Send UCT MFRs in pdf format because some recipients cannot download Microsoft Word files